

REMARKS

The Applicants thank the Examiner for the thorough consideration given the present application. Claims 4 and 7 are cancelled herein without prejudice or disclaimer of the subject matter contained therein. Claims 1-3, 5-6, 8, and 9 are pending. Claims 1 and 6 are amended, and claim 9 is added. Claims 1, 6, and 9 are independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Drawings

It is gratefully appreciated that the Examiner has accepted the drawings.

Claim for Priority

It is gratefully appreciated that the Examiner has acknowledged the Applicants' claim for foreign priority.

Information Disclosure Citation

Applicants thank the Examiner for considering the reference supplied with the Information Disclosure Statement filed on October 9, 2003, and for providing Applicants with an initialed copy of the PTO-1449 form filed therewith.

Obviousness-Type Double Patenting Rejection

Claims 1-8 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 7,062,082 and co-pending application No.10/453,526. This rejection is respectfully traversed.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, the Applicants are herewith submitting a Terminal Disclaimer disclaiming the terminal portion of any patent granted on the present application which

would extend beyond the expiration of U.S. Patent No. 7,062,082. In addition, the Applicants are herewith submitting a Terminal Disclaimer disclaiming the terminal portion of any patent granted on the present application which would extend beyond the expiration of any patent which issues from U.S. Application No. 10/453,526.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Rejections Under 35 U.S.C. §102(b)

Claim 1-3, 6, 7, and 10 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ohshima (U.S. 6,226,416).

This rejection is respectfully traversed.

Independent Claims 1 and 6

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, independent claim 1 has been amended herein to recite a combination of steps directed to a method of measuring rotational and flight characteristics of a sphere, including *inter alia*

said posture displacement operation comprises an operation of moving and rotating said imaginary sphere; and an amount of said posture displacement operation relative to said reference posture and said reference position is found by computations based on an optimization method called genetic algorithm.

In addition, independent claim 6 has been amended herein to recite a combination of elements directed to an apparatus of measuring rotational and flight characteristics of a sphere, including *inter alia*

said computing means has an optimization program for computing an amount of an operation of displacing said imaginary sphere relative to said reference posture and said reference position thereof, based on a genetic algorithm.

In the present application, a genetic algorithm is used in the optimization method in the computer. As described in http://en.wikipedia.org/wiki/Genetic_algorithm

“A **genetic algorithm** (or **GA**) is a search technique used in computing to find true or approximate solutions to optimization and search problems. Genetic algorithms are categorized as global search heuristics.

Genetic algorithms are implemented as a computer simulation in which a population of abstract representations (called chromosomes or the genotype or the genome) of candidate solutions (called individuals, creatures, or phenotypes) to an optimization problem evolves toward better solutions”.

Genetic algorithms are implemented as a computer simulation in which a population of abstract representations of candidate solutions to an optimization problem evolves toward better solutions. The evolution usually starts from a population of randomly generated individuals and happens in generations. In each generation, the fitness of every individual in the population is evaluated, multiple individuals are stochastically selected from the current population (based on their fitness), and modified (recombined and possibly mutated) to form a new population. The new population is then used in the next iteration of the algorithm. Commonly, the algorithm terminates when either a maximum number of generations has been produced, or a satisfactory fitness level has been reached for the population.

By contrast, as can be seen in Oshmina et al. columns 3 and 6, this document discloses a completely different optimization method that cannot be considered to be a genetic algorithm as required in the invention set forth in the claims of the present application. In particular, Oshima et al. fail to teach or suggest the iterative optimization method (using a genetic algorithm) as presently claimed.

At least for the reasons explained above, the Applicants respectfully submit that the combination of elements as set forth in each of independent claims 1 and 6 is not disclosed or made obvious by the prior art of record, including Oshima et al.

Therefore, independent claims 1 and 6 are in condition for allowance.

Independent Claim 9

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, independent claim 9 has been added herein to recite a combination of steps directed to a method of measuring rotational and flight characteristics of a sphere, including *inter alia*

wherein a plurality of said marks are given to a surface of said imaginary sphere, with said marks symmetrical at not more than four times with respect to a rotational axis of said sphere in an operation of rotating said imaginary sphere.

Support for the novel features of claim 9 can be found in the specification, for example on page 21, lines 7-22.

By contrast, Oshima et al. (U.S. 6,226,416) column 3, lines 1-8 merely disclose mark points P and Q in relation to center C. Oshima et al. fail to teach or suggest "*said marks symmetrical at not more than four times with respect to a rotational axis of said sphere in an operation of rotating said imaginary sphere*", as is required by claim 9.

At least for the reasons explained above, the Applicants respectfully submit that the combination of elements as set forth in independent claim 9 is not disclosed or made obvious by the prior art of record, including Oshima et al.

Therefore, independent claim 9 is in condition for allowance.

Dependent Claims

The Examiner will note that dependent claims 4 and 7 have been cancelled.

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, or due to the additional novel features set forth therein.

Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) are respectfully requested.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

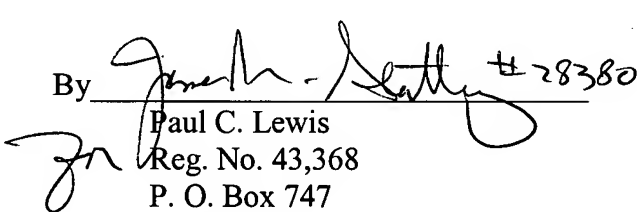
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 208-4030(direct line).

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Dated: April 6, 2007

Respectfully submitted,
BIRCH, STEWART, KOLASCH & BIRCH, LLP

By


Paul C. Lewis

Reg. No. 43,368

P. O. Box 747

Falls Church, VA 22040-0747

(703) 205-8000

Attachment: Two (2) Terminal Disclaimers